

**ABSTRACT**

Disclosed is a photodiode with improved light-receiving efficiency and coupling effect with an optical fiber, whose capacitance may be decreased. The  
5 inventive photodiode includes a substrate; a buffer layer and a light-absorbing layer laminated in sequence on the substrate; an epitaxial layer formed on the upper surface of the light absorbing layer and having an active region with a surface in a convex lens shape so that it has greater surface area and more effective light-receiving area than an active region defined in a two-dimensional plane, the active region further having a  
10 convex surface can harvest light with its convex-lens characteristics; a dielectric layer formed on the upper surface of the epitaxial layer; a first metal electrode formed on an upper surface of the dielectric layer; and, a second metal electrode formed on an under surface of the substrate.